

CLAIMS

1. A device control management apparatus, comprising:

5 first communication means connected to each of
communication devices via each of first communication paths;

second communication means connected to each of
controlled devices via each of second communication paths;
and

10 control right management means for managing a control
right that is set between the communication device connected
to the first communication means and the controlled devices
connected to the second communication means.

15 2. The device control management apparatus as set forth
in claim 1, wherein the control right management means is
capable of obtaining or releasing the control right, which
allows the communication device connected to the first
communication means to control the controlled device,
connected to the second communication means, as
20 management of the control right.

25 3. The device control management apparatus as set forth
in claim 1, comprising communication management means for
detecting a communication condition of at least one of the
first communication path and the second communication path,

wherein

the control right management means is capable of changing a setting of the control right in accordance with variation of the communication condition detected by the communication management means.

4. The device control management apparatus as set forth in claim 3, wherein

in case where the communication management means detects that a communication of at least one of the first communication path and the second communication path is cut off, the control right management means releases the control right between the communication device and the controlled device that communicate with each other via said at least one of the first communication path and the second communication path.

5. The device control management apparatus as set forth in claim 3 or 4, wherein

in case where the communication management means detects that a communication of at least one of the first communication path and the second communication path is established, the control right management means establishes the control right between the communication device and the controlled device that communicate with each other via said

at least one of the first communication path and the second communication path.

6. The device control management apparatus as set forth
5 in any one of claims 3 to 5, wherein

in case where the setting of the control right is changed,
the control right management means notifies how the control
right is changed to the communication device or the
controlled device that is connected to the other of the first
10 communication path and the second communication path.

7. The device control management apparatus as set forth
in any one of claims 1 to 6, comprising setting input means
which is capable of inputting the setting of the control right
15 not via the first communication means.

8. The device control management apparatus as set forth
in claim 7, wherein

in case where the setting input means inputs the setting
20 of the control right, the control right management means
prioritizes the setting of the control right that has been
inputted.

9. The device control management apparatus as set forth
25 in any one of claims 1 to 8, comprising display means which

is capable of displaying a setting condition of the control right.

10. The device control management apparatus as set
5 forth in claim 9, wherein the display means is capable of displaying a relationship between the control right and the communication device having the control right as the setting condition.

10 11. The device control management apparatus as set forth in any one of claims 1 to 10, wherein the second communication means and the controlled device are provided in the device control management apparatus.

15 12. A device control management apparatus,
being connected to communication devices via first communication paths,

comprising control right management means for adding
or releasing one or more control rights for controlled devices
20 to or from one or more communication devices in case where the device control management apparatus receives each of control commands for the controlled devices from the communication devices via the first communication paths.

25 13. The device control management apparatus as set

forth in claim 12, wherein

the control right management means adds or release the control right in accordance with a type of the control command.

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14. The device control management apparatus as set forth in claim 13, wherein

the control right management means judges whether or not the control command is a command which changes an operative condition of each of the controlled devices, and the control right management means does not add or release the control right in case where the control command is a command which does not change the operative condition of the controlled device.

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15. The device control management apparatus as set forth in claim 13 or 14, wherein

the control right management means adds the control right to a communication device, which has sent a communication connection establishment command, in case where the control right management means receives the communication connection establishment command.

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16. The device control management apparatus as set forth in any one of claims 13 to 15, wherein

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the control right management means releases the control right of a communication device, which has sent a communication connection cut-off command, in case where the control right management means receives the communication connection cut-off command.

17. The device control management apparatus as set forth in any one of claims 12 to 16, wherein

in case where the control right management means receives one or more control commands, targeted in adding the control right, from one or more communication devices connected to the device control management apparatus via the first communication paths, the control right management means adds the control rights to a predetermined number of communication devices out of the communication devices which have sent the control commands.

18. The device control management apparatus as set forth in claim 17, wherein

in case where the control right management means receives the control commands, targeted in adding the control right, from a plurality of communication devices connected to the device control management apparatus via the first communication paths, the control right management means adds the control rights to the communication devices in such

an order that a first communication device having sent the control command first receives the control right.

19. The device control management apparatus as set forth in any one of claims 12 to 18, wherein

in case where the control right is released from a certain communication device, the control right management means selects a next communication device, to which the control right is to be added, from other communication devices connected to the device control management apparatus via the first communication paths.

20. The device control management apparatus as set forth in claim 19, wherein

the control right management means selects a communication device which has sent the control command, targeted in adding the control right, to the device control management apparatus, as a next communication device to which the control right is to be added.

21. The device control management apparatus as set forth in any one of claims 12 to 20, wherein

when the control right is to be added to a communication device, the control right management means notifies a communication device which newly obtains the

control right or a controlled device which is newly targeted
that the control right is added.

22. The device control management apparatus as set
5 forth in any one of claims 12 to 20, wherein

when the control right is to be released to a
communication device, the control right management means
notifies the communication device which had the control right
or the controlled device which was controlled by the
10 communication device that the control right is released.

23. A communication device, connected to the device
control management apparatus as set forth in any one of
claims 12 to 22 via a first communication path,

15 said communication device comprising a display control
means for receiving a control right obtaining condition from
the device control management apparatus and for controlling
a display so that the control right obtaining condition is
displayed in case where the control command is sent to the
20 device control management apparatus.

TRANSLATION OF AMENDMENTS UNDER ARTICLE 34

24. (Additional claim) The device control management apparatus as set forth in any one of claims 1 to 6, further comprising not only the first communication means but also setting input means which allows the control right to be set and inputted from an outside of the device control management apparatus.

25. (Additional claim) A device control management apparatus, being connected to each of communication devices via each of first communication paths, having a function for controlling a controlled device in accordance with a predetermined control command, said device control management apparatus being characterized by comprising control right management means for controlling the controlled device in accordance with the control command and for adding or releasing the control right for the controlled device to or from the communication device which has sent the control command in case where the device control management apparatus receives the control command for the controlled device from the communication device via the first communication path.

26. (Additional claim) The device control management apparatus as set forth in claim 25, wherein the controlled device is provided in the device control management apparatus.

27. (Additional claim) The device control management apparatus as set forth in claim 25 or 26, wherein control right information of the controlled device is not included in the control command of the controlled device.